CHAPTER 4

AVIATION MATERIAL MANAGEMENT

The unique characteristics of today's Navy, for the most part, determine the nature and size of its supply management. Supply management has adapted itself to the changing material requirements and advancing technologies. Supply system procedures have also adapted to respond to the changing operational requirements,

This chapter will help you learn the principles and procedures for managing aviation material. You will learn the procedures for issuing an Aviation Consolidated Allowance List (AVCAL) and Shore Consolidated Allowance List (SHORCAL) to an activity. You will also learn the procedures to properly manage the AVCAL and SHORCAL.

THE NAVY SUPPLY SYSTEM

The term *Navy supply system describes* that system under the direction of the Commander, Naval Supply Systems Command, consisting of inventory managers and stock points, with primary functions to provide material to the Operating Forces of the Navy.

The major responsibility of the Navy supply system is to provide material in support of the operation and maintenance of aeronautical equipment. Every effort will be made to have material located when and where it is needed. The intent is to make the relationship between the supplier and the user as simple and uncomplicated as possible within the boundaries of logistics directives published by higher authority.

SUPPLY SYSTEM MANAGEMENT

The Navy supply system is part of the total federal supply system. It procures, maintains, and distributes equipment, repair parts, and consumable inventories to Navy customers. 'he basic responsibility for providing supply support to meet user needs is the function of naval inventory control points (NAVICPs). The cognizant systems command and the users determine the individual supply support measures of ashore and afloat units.They also determine the range and depth of items to be carried and position inventories at those designated activities.

The Naval Inventory Control Point-Philadelphia (NAVICP-Phil) is the primary inventory manager of the aeronautical items used in the Navy. Commonly, the senior AK is involved in managing aeronautical materials in the retail level. Technical aviation material consists of material and spare parts for aircraft, power plants, avionics, electrical and meteorological equipment, safety equipment, and support equipment (SE) both common and peculiar. All of these items are composed of consumable and repairable aviation materials. The repairable items are also referred to as Aviation Depot Level Repairable (AVDLR) or Depot Level Repairable (DLR). AVDLR components represent the most significant dollar investment in the entire aeronautical item inventory. Improved management of these components is essential to the increased readiness of the operating forces and to the reduction of support costs.

The NAVICP-Phil's material mission is the program support of weapons systems, aeronautical equipment, and components under the design, engineering, and configuration control of the Naval Air Systems Command (NAVAIRSYSCOM). Certain items required in support of NAVAIRSYSCOM material programs may be under the management cognizance of several ICPs; however, program information is provided by NAVICP-Phil to these ICPs to enhance the supply support.

MANAGEMENT OF REPAIRABLES

A repairable is an item that, when unserviceable, normally can be economically restored to a serviceable condition through repair procedures. Repairable are grouped as field level repairable (FLRs) or depot level repairable (DLRs). The criteria used to categorize an item as FLR or DLR is based on the lowest level authorized to condemn the item.

The FLRs are condemned and disposed of at the field level. The material control code (MCC) D is assigned to identify FLRs. The inventory levels for the FLR are computed in the same manner as for consumables.

The DLRs are items that can be economically repaired at depot level (D-level) maintenance if it is

beyond the repair capability of the organizational (O-level) or intermediate (I-level) maintenance levels. The DLRs in Not Ready For Issue (NRFI) condition must be shipped to the dept level maintenance activity for repair or disposition. The DLRs are identified by MCCs E, G, H, Q, or X (with the exception of cognizance 6RX).

Advanced technology has made the weapons systems more sophisticated. The equipment, components, and related parts necessary to sustain the weapons systems also have become more complex and specialized.

The weapons replaceable assembly (WRA) is the generic term that includes all replaceable packages of an avionic equipment or system as installed in the aircraft weapons system. The WRA does not include cable assemblies, mounts, fuse boxes, or circuit breakers. The WRA is composed entirely of shop replaceable assemblies (SRAs).

The shop replaceable assembly (SRA) is a generic term that includes all the packages in the WRA. The SRAs include the chassis and wiring as a unit.

NOTE: An SRA may be made of other SRAs.

Several shop replaceable assemblies (SRAs) make up a weapons replaceable assembly (WRA). When a component fails and it is diagnosed that the cause is in an SRA, the entire SRA module containing the defective part is removed and replaced. Repairable items are expensive and normally require a long lead time in procurement. However, if the defective SRA components are repaired and returned to the supply system, the fleet can maintain its readiness.

Stock records at all supply levels must reflect total quantities of all available repairable components. These quantities are reported to the NAVICPs. The report will enable the NAVICPs to have an accurate count of assets to budget for procurement and distribution. The NAVICPs also use the report to determine proper repair workload scheduling to maintain ready for issue (RR) stock levels, The item manager must keep track of both RFI and not ready for issue (NRFI) material to maintain the required quantity. The NAVICP uses this information to decide whether to buy additional quantities or repair NRFI assets to fill the requirements.

Categories of Repairable

Initially, an item is designated as repairable or consumable during the development of the maintenance plan by the Hardware Systems Command and implemented into the coding process during the provisioning process. This plan includes information necessary to establish the source maintenance and recoverability (SM&R) code. The maintenance plan also designates the lowest maintenance level that is authorized to perform a specific task on an item. The different maintenance levels are the organizational, intermediate, and depot level. The SM&R code reveals the maintenance level authorized to perform the following work:

- Remove and replace the item
- Repair the item
- Condemn the item if it cannot be repaired

After the repair level for an item has been designated, the item is assigned a material control code (MCC) by the item manager. The MCC is a single-letter code used for identification of repairable items, to segregate items into more manageable groups, or to relate to field activities special reporting and/or control requirements.

Ownership

Aviation Held Level Repairable (AVFLRs) may be carried in purpose codes W or L as authorized stock under an activity's fixed allowance. The AVFLRs that are excess to the authorized stock levels maybe carried under purpose code A. Afloat, AVFLRs are carried under stores account 51000 pending issue to customers.

In the DLR program, ownership relates to the account under which the repairable material inventories are held. These accounts include the Defense Business Operations Fund (DBOF), Appropriation Purchase Account (APA), contractor supported, and end-use ashore/afloat.

The DBOF (formerly Navy Stock Fund [NSF]) is a revolving fund with two major assets, cash and material. The DBOF cycles cash into material inventory by having the components repaired at depots, or by buying from vendors or other stores accounts. When material is received, it is placed on the shelf where it is held in Navy stock account 51000 pending requisitioning by a customer. When the material is issued to the customer, the DBOF is reimbursed by the customer's operating funds. The DBOF recycles the cash into inventory through repair or purchases and the cycle is then repeated.

The Appropriation Purchase Account (APA) material is held in Stores Amount 52000. The APA

materials are financed by procurement appropriations. These are the Aircraft Procurement Navy (APN), Weapons Procurement Navy (WPN), or Other Procurement Navy (OPN) appropriations. Some examples of items carried in APA are aircraft engines, radar systems, computers, and soon.

The contractor supported items are identified by a 0_ Cog. The contractor provides the support during the interim pied as agreed upon by the vendor and the Hardware Systems Command (HSC). The contractor support terminates at the Material Support Date (MSD). An MSD is the agreed upon date when the ICP will accept the responsibility for the support of the items. Upon acceptance of responsibility, the items are assigned with the appropriate cognizance symbol for the ICP. Refer to Appendix 17, Part C of NAVSUP P-437 for a list of cognizance symbols and their cognizant ICPs.

The End-Use DLRs are held in Stores Account 55000 for shorn activities. This also applies to afloat units using the Shipboard Uniform Automated Data Processing System-Real lime (SUADPS-RT) with Uniform System Identification (USID) codes C or M. The USID code C applies to ships with designations of CV, CVN, LHA, LPD, and LHD. The USID code M applies to Marine Aviation Logistics Squadrons (MALS). Under this concept, the supporting activity (not the customer) is responsible for the issue, replenishment, and financial accounting of end-use inventories. Ashore, end-use DLRs are carried in the W or L purpose. Afloat, a majority of these items are carried under allowance-type (AT) code 2. 'he aviation activities buy end-use DLRs with Operations and Maintenance funds apportioned to them by their respective type commanders. The supply officer also uses the Operations and Maintenance fund to maintain the inventory of end-use DLRs.

Condition Codes

To manage repairable components properly, you should distinguish the condition of items in stock. The manager must know if an item is in RFI condition, requiring repair, or being repaired. The supply condition code is assigned to classify the materials in terms of their readiness for issue and use. As material moves through the repair cycle, its condition code changes. The most current condition code is used to record the status of the material. A complete listing of supply condition codes is listed in appendix A2 of MILSTRIP/MILSTRAP, NAVSUP P-437, and appendix 9 of *Afloat Supply Procedures,* NAVSUP P-485.

Local Repair Cycle Asset (LRCA)

The LRCA storage unit is under the Aviation Support Division/Supply Support Center (ASD/SSC) of a supply department. This unit is responsible for receiving, storing, issuing, and accounting of repairable assets controlled by ASD/SSC. The LRCA is part of the activity's fixed allowance and stored close to the intermediate maintenance activity (IMA). To prevent submitting a requisition to the supply system every time a replacement serviceable unit is needed, NAVICP-Phil provides a fixed allowance to the supporting activity. When an NRFI unit is removed from an aircraft or equipment, an RFI replacement is issued from the LRCA storage unit. The NRFI unit is inducted into the IMA for repair. When the item is repaired locally, it is returned to the stock storage as an RFI asset. When the item cannot be repaired locally, or when the item is an AVDLR, it is then forwarded to the designated repair point/designated support point (DRP/DSP) for repair and an RFI replacement unit is requisitioned from the supply system.

A fixed allowance is established based upon an estimate of the activity's usage considering such factors as failure rates, operating hours, and the I-level repair turn-around time (TAT).

The important factor in determining the allowance quantity of a repairable item is the TAT. The TAT is the length of time from the removal of the NRFI component to its restoration to serviceable condition and returned to the shelf. The objective of the maintenance activity is to keep this TAT as short as possible.

The total repair process can be thought of as a circular system wherein the unserviceable unit enters the repair program in F condition and is repaired and returned to stock in A condition. This process is referred to as depot repair cycle.

Master Repairable Item List (MRIL)

The MRIL is the official designated source for determining the proper disposition of NRFI repairable. The MRIL is available in Compact Disk Read-Only Memory (CD-ROM) and in mechanized format.

The MRIL in CD-ROM is the primary source of information for nonmechanized activities. This format is updated in its entirety, published, and distributed monthly. The CD-ROM format is in two parts.

Part 1 of the CD-ROM MRIL is a list of all DLRs in national item identification number (NIIN) sequence. The information includes associated data pertinent to each item. Some of the data are the Cog, MCC, movement priority designator (MPD), shipping code, and special notes where applicable. The shipping code may be a six-position code beginning with an N, a C, or a W. The N represents a Navy activity with the remaining five digits being the unit identification code (UIC). The C represents a commercial repair facility and the W represents an other service repair facility. The digits following the C or W are not UICs. If the MRIL lists more than one shipping code, ship the item to the closest address from your activity. Shipping codes may also be a WW, XX, YY, or ZZ. Only one shipping code is assigned to an item in the MRIL. his code will either be an alpha alpha or six-digit UIC shipping code but not both. The WW and YY shipping code indicates that the item must be sent to a Defense Reutilization and Marketing Office (DRMO). 'he XX shipping code indicates that the item is shipped to the closest fleet and industrial supply center (FISC). The ZZ shipping code indicates that disposition and shipping instructions must be requested from the ICP.

Part 2 of the CD-ROM MRIL is a list of shipping addresses relative to the shipping code in part 1. This part also includes the supplementary address information wherever applicable.

The mechanized MRIL is used by activities having a computer system. The information in the mechanized MRIL is the same as in the CD-ROM format. The mechanized MRIL is established and maintained on three computer disk files from MRIL computer tapes. The MRIL computer tapes are provided monthly by the Fleet Material Support Office (FMSO) to mechanized activities. One of the files is equivalent to the part 1 of the CD-ROM format. The other two files are identical shipping address files except one is in shipping code sequence and the other is in activity sequence code (ASC) order. The ASC is a four-position numeric code. The ASC is developed to permit mechanized processing by computing the difference (value) between the processing activity's ASC and the listed DRP/DSP ASCs. The lowest value is the closest DRP/DSP whenever there is more that one DRP/DSP to which an item can be shipped.

The MRIL must be used in conjunction with other publications. Afloat units should use additional guidance outlined in *Afloat Supply Procedures*, NAVSUP P-485, and *Supply Afloat Packaging Procedures*, NAVSUP P-484. Ashore activities should use additional guidance outlined in the MILSTRIP/ MILSTRAP, NAVSUP P-437, and *Material Turned in to Store* (MTIS) Manual, NAVSUP Instruction 4440.157.

The area of the MRIL that is subject to change is the material priority designator (MPD). The item manager (IM) has the option to lower or raise the MPD. The IM raises the shipment priority of the retrograde to the DRP/DSP to expedite repair. The IM may lower the shipment priority if the inventory quantity of the item is sufficient to support future requirements.

Advanced Traceability and Control (ATAC)

The new procedures for moving NRFI DLRs are provided by ATAC. The ATAC directs shipment of NRFI DLRs to a specific Hub activity within the geographical zones on the east or west coast. It also directs shipments to Transportation Nodes such as Fleet and Industrial Supply Center (FISC) Yokosuka or NAS Sigonella. The Nodes consolidate the shipments of NRFI DLRs and forward the consolidated freight to the closest Hub for processing. The Hub performs full technical screening, packing and preservation, and transaction reporting. The Hub transships the NRFI DLRs to the DRP/DSP according to the MRIL. The two geographic Hubs are FISC Norfolk and FISC San Diego.

Some programs are excluded from the ATAC Hub concept. Some of the programs that are excluded are the repair and return, ship's express, and classified items. Refer to NAVSUP P-545 for a complete list of programs that are excluded from the ATAC Hub concept.

FIELD LEVEL REPAIRABLE (FLRs)

As described in the previous paragraphs, aviation FLRs are identified by cognizance symbol 1RD. End-use requirements for FLRs are filled from the activity's fixed allowance. If the required FLR is not available for issue, the NRFI component is inducted for expeditious repair (EXREP). If the EXREP is unable to satisfy the requirement, retail activities may issue from purpose code A assets. Wholesale activities refer their requisitions to NAVICP-Phil.

Upon issue of an FLR, the financial transactions will not be recorded when the NRFI turn-in was repaired by the maintenance activity. If the maintenance activity was unable to repair the NRFI turn-in, the expenditure will be recorded at the standard

price. The customer will be balled for the FLR issued and will not be credited for NRFI turn-in.

The NRFI FLR is disposed of according to the MRIL. Stock replenishment for FLRs may be obtained from the purpose code A stock or from the supporting supply source. Refer to NAVSUPINST 4440.159 for detailed procedures for FLR transactions.

DEPOT LEVEL REPAIRABLES (DLRs)

The DLRs are repairable items for which the condemnation should be made at the depot level. These items may also be repaired at the organizational or intermediate level as determined by the assigned SM&R code. Depot level repairable are further categorized as described in the following paragraphs.

- Aviation Depot Level Repairable (AVDLRs) are DLRs under the management of the Naval Inventory Control Point-Philadelphia (NAVICP-PM). Selected repair or maintenance of AVDLR components can be accomplished at the intermediate maintenance activity (IMA). Unserviceable AVDLRs that were determined to be beyond capability of maintenance (BCM) at the IMA must be shipped to the depot repair facility.

- Non-AVDLRs are DLRs under the management of the Naval Inventory Control Point-Mechanicsburg (NAVICP-Mech). Unserviceable non-AVDLRs are shipped to a depot repair facility when determined to be BCM at the IMA.

- NSA DLRs are Defense Business Operations Fund (DBOF) owned DLRs under the management of NAVICP-Phil or NAVICP-Mech. The NSA DLRs are carried in stores account 51000.

- Appropriation Purchase Account (APA) DLRs are those items identified by an even number cognizance (Cog) symbol and managed by NAVICP-Phil or NAVICP-Mech. These DLRs are carried in stores account 52000.

MANAGEMENT PROGRAMS FOR AVIATION REPAIRABLE

Several management programs for repairable have been established within the aviation supply system to enable the IMs to maintain control and to make sure unserviceable components are repaired in a timely manner. Some of these special programs are discussed in the following paragraphs.

OPERATIONAL SUPPORT INVENTORY/FIXED ALLOWANCE

Weapons systems are supported under the operational support inventory/fixed allowance concept. Refer to NAVSUPINST 4440.160, FASOINST 4440.15, and FASOINST 4440.16 for detailed procedures. A negotiated firm allowance of repairable assets may not be exceeded without NAVICP authorization. Strict one-for-one exchange discipline between O- and I-level maintenance activities and the supply department must be maintained. Off-station requisitions must not be submitted before the item is confirmed as beyond capability of maintenance (BCM), except when the item is listed in the consolidated remain in place list (CRIPL). The NAVICP maintains visibility of stock records of fixed allowance repairable through the transaction item report (TIR) from activities assigned as TIR sites. Storage of fixed allowance assets is authorized at any ASD/SSC location within the operating site. Normally, the storage site is referred to as the LRCA storage unit.

INTENSIVE REPAIRABLE ITEM MANAGEMENT (IRIM) PROGRAM

The NAVSUP Instruction 4419.4 describes the IRIM program at the inventory control points in detail. This program was established to standardize previously existing programs for intensive management of high cost, critical aviation, and shipboard repairable items. For aviation repairable, the IRIM program replaces the intensive closed-loop aeronautical management program (I-CLAMP). The implementation of the IRIM program is designed to resolve problems with availability, reduce backorders, improve repair turn-around time (RTAT), and improve carcass returns. You can also refer to ASOINST 4440.99 concerning the IRIM program.

COMPONENT REPAIR PROGRAM

The primary objective of the aeronautical component repair program is improved readiness through the return of all repairable components to the operating forces with the least expenditure of material, manpower, and money. The scope of the component repair program is virtually unlimited since it ranges in depth from minute adjustment to complete repair of selected components. The program encompasses those functions performed by the O-, I-, and D-levels of maintenance during the overhaul, repair, check, test, certification, modification, or manufacturing processes.

Procedures for complying with the documentation of the component repair program are covered in OPNAV Instruction 4790.2 (NAMP).

Repair requirements for organically repaired aeronautical components under the cognizance of NAVICP-Phil are managed under two programs. They are the level schedule program and the B08 cyclic repairable management program. Repairable components may be selected for the level schedule program based on the history of high volume of system demands and annual rework expenditures. The balance of organically repaired 7R and 6K COG components is managed under the B08 program.

B08 Cyclic Repairable Management program

Repair requirements for B08 items are computed weekly on a family basis and stratified into four distinct urgency-of-need levels. The levels of need are outlined in FASO Instruction 4440.98. The B08 program identifies a deficit of RFI items to the computed requirement and identifies this as a production requirement. The actual induction quantity that will be used to support this requirement is constrained by factors such as DRP capability, availability of NRFI items to be repaired, and the DRP capacity.

Level Scheduling Program

Level scheduling is similar to the B08 program except that the items covered under level scheduling are manually negotiated on a semiannual basis. This program sets the production levels at the naval aviation depots (NADEPs) for those items that are at critical stocking levels.

Foreign Object Damage (FOD) Program

FOD is damage to aeronautical equipment caused by an external object. Some examples of FOD are the ingestion of hardware or tools by a jet engine and tires cut by debris on the ramp, taxiway, or runway.

FOD to aircraft, engines, support equipment, and other aeronautical equipment is a costly problem, the importance of which cannot be overstated. FOD presents personnel and material hazards, consumes valuable maintenance man-hours, imposes additional unscheduled workloads on both using and supporting activities, creates shortages, wastes dollars, and reduces operational readiness. A successful FOD prevention program depends on command support, personnel knowledge and awareness, and the degree of integration into the total maintenance effort. Most FOD can be attributed to poor housekeeping, facility deterioration, improper maintenance practices, or carelessness. Therefore, an effective program that identifies, corrects, and eliminates causal factors is very important.

Tool Control Program

The tool control program provides a means to rapidly account for all tools after completing a maintenance task, thus reducing the potential for FOD. A valuable benefit to this program is reduced tool loss, which reduces tool replacement costs.

The primary objective of the tool control program is to improve flight safety by eliminating aircraft accidents, incidents, and associated equipment damage caused by lost or misplaced tools. Secondary objectives include the reduction of expenditures for additional outfitting and replacement of missing, defective, or pilfered tools; the reduction of man-hours for maintenance task completion; and a general improvement in the quality of aviation maintenance.

The tool control program must provide instant inventory capability through internally configured tool containers, with each tool in individually tailored locations designed to highlight a missing tool.

The Office of the Chief of Naval Operations (OPNAV), through the aircraft controlling custodians (ACCs), is responsible for the implementation and management of the tool control program. Any request for deviation from established instructions must be addressed to the cognizant ACC via the chain of command. The material control officer coordinates the tool control program on the local level and is responsible for the procurement and issue control of all tools.

Requirements for tool containers, controlling numbers, identification by etching on each tool, and special accounting procedures are identified in OPNAV Instruction 4790.2 (NAMP).

Electrostatic Discharge (ESD) Control/Prevention Program

The ESD Program is the transfer of electrostatic charge between bodies at different electrostatic potentials caused by direct contact or induced by art electrostatic field. All areas where ESD items are handled, including supply storage areas and maintenance/production work centers, must have ESD safe areas.

The avionics division officer is responsible for a comprehensive training program for supply and maintenance personnel and ensures compliance with the requirements outlined in the *Electrostatic Discharge Control Handbook for Protection of Electrical and Electronic Parts, Assemblies and Equipment,* DOD-HDBK-263, and the *Electronic Assembly Repair, Standard Maintenance Practices Manual,* NA 01-1A-23, work package 005 for all avionics personnel and others who come in contact with ESD sensitive assemblies/devices. All printed circuit assemblies/ microcomponents are considered to be ESD sensitive while being handled, packaged, repaired, and transported. Guidance and direction for the identification, handling, and protection of ESD sensitive components should be followed according to NAVSUP Instruction 4030.46, and appropriate TYCOM instructions. *Supply Afloat Packaging Procedures,* NAVSUP P-484, details the proper methods and required materials used in packaging ESD sensitive components for storage and shipment.

Personnel safety cannot be overstressed in this program. In the past, technicians have always been isolated from electrical shock by nonconductive rubber mats. In ESD safe areas, these nonconductive mats have been replaced with conductive material/devices through which the technician is attached by a soft ground (a connection to ground through an impedance sufficiently high enough to limit current flow to safe levels for personnel), normally 5 milliamperes.

NOTE: Impedance is the opposition to current flow in an alternating current circuit.

Impedance needed for a soft ground is dependent upon the voltage levels that could be contacted by personnel near the ground. The practice of handling SRAs with power applied is strictly prohibited.

Strict compliance with these procedures must be followed by supply personnel who receive, store, ship, and issue ESD-sensitive components.

Engineering Investigation (EI) Program

The EI program was established under NAVAIR direction to conduct technical engineering investigations on failed materials. These investigations include identifying causes and contributing factors and recommending required corrective actions.

PURPOSE.— The EI program is applicable to all aircraft and weapons systems, subsystems, equipment, components, related support equipment (SE), special tools, and fluids/materials used in the operation of the equipment. The EI program accomplishes the following objectives:

- Provides an investigation process to determine the cause and extent of fleet-reported material failures.
- Supports the investigation of material associated with aircraft mishaps, lightning strikes, electromagnetic interference, and stray voltage problems.
- Provides for investigation of components rejected through the Joint Oil Analysis Program (JOAP).
- Supports the scheduled removal component (SRC), assembly service record (ASR), equipment history record (EHR), and module service record(MSR) programs by providing for the investigation of high-time and on-condition components/assemblies to confirm, revise, or initiate component/assembly operating times.
- Provides for engineering assistance relating to any fleet material problem.
- Supports the mandatory investigation requirements for activated aircraft escape systems as listed in OPNAV Instruction 3750.6.

Three different types of EIs may be conducted. They are the disassembly and inspection, material analysis, and engineering assistance.

RESPONSIBILITIES OF THE ORIGINATING ACTIVITY.— The activity must submit the EI request under one or more of the following conditions:

- Safety is involved
- Additional technical or engineering information is required to complete an aircraft mishap investigation.
- Aircraft readiness is seriously impaired because of poor material reliability.
- A component is rejected through the JOAP after authorized repairs are attempted and exhausted at the organizational and intermediate maintenance level.
- When directed by higher authority.

The originating activity must submit the EI request by routine precedence message within 5 working days after discovery of the deficiency. However, if the EI request is combined with a Hazardous Material Report (HMR), follow the reporting criteria for the HMR.

NOTE: Refer to OPNAVINST 4790.2 for HMR procedures.

Include the supporting supply department and, for DLRs, the designated support point (DSP) as info addressees on the EI message. Turn in the defective material to the supporting supply department unless it is environmentally sensitive. Hold environmentally sensitive material in the unit storage area pending disposition instructions from competent authority.

SUPPORTING SUPPLY DEPARTMENT RESPONSIBILITY.— The supporting supply department holds defective EI material until disposition instructions are received from the cognizant field activity (CFA) or other directing authority. Material should be marked with the words *Holding* 30 *Days for Investigation* and be held in supply for a maximum of 30 days. If disposition instructions are not received within this time frame, request disposition instructions from the CFA. If the investigation is needed, the maintenance engineering cognizant field activity (MECFA) may request the holding activity to ship the defective material. Ship the material in an "as is" condition. When a hazardous condition is evident, supply personnel perform only those tasks necessary to protect the material while it is being forwarded.

The following procedures apply when shipping material as EI exhibit:

- Special care must be taken to cap/package material immediately upon removal from the system to prevent corrosion, contamination or other damage that may contribute to confusion or loss of possible cause factors.

- Do not attempt disassembly of material, make adjustments, or perform any type of cleaning.

- When contamination is suspected, forward samples of the fluid in a clean, sealed container.

- Forward all failed fragments. Do not try to reassemble. Wrap fragments separately to prevent damage by movement of one against another.

- When feasible, forward associated accessories, components, or material that may be suspected of contributing to the malfunction/mishap.

- Package all material to at least the same level of protection as RFI parts. Do not transport EI material loose in boxes or on truck beds or packaged with other items.

- Mark all containers and associated documents Engineering *Investigation*. On the DD Form 1348-1 (in the *Ship To* block), enter Investigation Material, the EI control number, or any other identifying numbers as directed by the CFA. Stamp or mark the notation EI in 3-inch letters on the face of the document without obliterating any vital data elements.

- Parcel post shipments must be registered. MPD 03, Military Standard Transportation and Movement Procedures (MILSTAMP) priority 1, is assigned to material being shipped for investigation. Reject code 754 is assigned for all MILSTAMP transactions involving investigations. Use document identifier BEI and condition code L on the DD Form 1348-1 shipment document. Enter the El control number on block P of the DD Form 1348-1. Include the contract number in the Remarks block of the DD Form 1348-1 and provide a copy to the NAVICP-Phil.

NOTE: Any material to be released to a contractor's representative or shipped directly to the contractor's plant must be processed through the supporting supply department. The supply department can issue the material on a custody basis only when authorized by the MECFA. Ship all DLR exhibits via the ATAC Hub for processing and transshipment to the commercial site.

Refer to OPNAV Instruction 4790.2 (NAMP) for additional information concerning EIs. The NAVSUPINST 4440.187 contains additional detailed policy and procedures for control of DLRs forwarded for investigations.

Contractor Maintenance Program

The Navy and Marine Corps have several contractor aircraft maintenance programs. Each program evolved with its own unique considerations and variations, resulting in many divergent programs. These programs include a mix of government and commercial requirements and introduce unique challenges for program management personnel. They include variations of standard depot level maintenance (SDLM) only, site O-level maintenance, I-level maintenance and supply support, and total O-, I-, and D-level maintenance and supply support. DOD Directive 4151.1 and SECNAV Instructions 4860.42 and 4200.27 establish uniform policies and procedures for planning, developing, and managing contractor maintenance programs, These instructions apply to all Navy and Marine Corps aviation activities that contract for or employ contractor maintenance for O-, I-, or D-level maintenance.

The use of contractor maintenance must be consistent with the effective and efficient accomplishment of the Navy and Marine Corps mission.

Normally, the use of contractor maintenance is instable mission environments such as training, test, or support functions. These programs must be structured to comply with OPNAV-approved maintenance plans, operational logistics support plans (OLSPs), and other applicable instructions pertaining to the maintenance and support of a specific system.

As a senior AK you may become involved in writing task statements for proposed maintenance contracts. The instructions listed above and additional information and guidance outlined in OPNAV Instruction 4790.2 will be beneficial.

Quality Deficiency Reporting (QDR)

This program provides maintenance and supply activities with a method for reporting deficiencies in new or newly reworked material that maybe attributable to nonconformance with contractual or specification requirements or substandard workmanship. Failures must have occurred at zero operating time, during initial installation/operation/test/check/turn-up, or first flight. Discrepancies discovered after the initial use do not qualify for QDR and should be reported as EIs, hazardous material reporting (HMR), or explosive mishap reporting (EMR), as appropriate. This program differs from the EI program in that it reports on possible deficiencies in quality assurance (QA) during the manufacturing or rework process. The goal of the QDR program is to improve the quality of work done by naval aviation depots, contractors, and subcontractors.

New material is material procured under contract from commercial or government sources or manufactured by an organic facility, and is considered new until it has been delivered, accepted, released for use, and proved in actual operation. Material under warranty will be considered new until the warranty expires. Reworked material is material overhauled, rebuilt, repaired, or modified by a government or commercial activity, but unproved in actual operations.

The procedures for preparing the exhibit for QDR are the same as for EI except the word QDR is used in place of EI Enter document identifier BQD and condition code L on DD Form 1348-1 used as the shipment document. Enter the QDR control number on block D of the DD Form 1348-1.

Additional information concerning reporting requirements, forms used, and procedures for QDRs may be found in OPNAV Instruction 4790,2 (NAMP),

Warranty Program

The *Federal Acquisition Regulation (FAR)* and the *Department of Defense FAR* (DFAR) supplement authorize the contracting officer to obtain warranties when buying supplies or services for the government. The purposes of a warranty in government contracts are as follows:

- To define the right and obligations of the contractor and the government for defective items and services
- To foster quality performance

Unless a waiver is authorized, each contract must contain warranties covering design and manufacturing requirements, defects in materials and workmanship, and essential performance requirements. These warranties will provide ample time after delivery of the equipment for the government to assess achievement of specification requirements and to make sure that the equipment is free from defects in materials and workmanship.

Warranty items will be repaired at the maintenance level that would normally repair such items if they were not under warranty. Warranty procedures accomplish the following actions:

- Allow repairs of warranted items to be accomplished in the same manner as repairs of nonwarranted items, with only minor changes to documentation procedures. (Example: Special indicators are documented on the maintenance action form (MAP) or facsimile to identify that the repair of a warranted item was accomplished.)
- Allow expeditious repair (EXREP) of warranty items to occur in the same reamer as nonwarranted items.
- Reserve the use of QDRs at the organizational and intermediate level maintenance activities for their intended purpose. (Example: Documentation of apparent deficiencies in construction/manufacture of repairables/consumables, instead of documentation of failures of items simply because they were under warranty.)
- Require the determination of any payback to the Navy to be the result of contractual liaison between Commander, Naval Air Systems Command (COMNAVAIRSYSCOM), NAVICP-Phil, and other Navy field activities with the applicable manufacturer representatives. Such determination will be based on

maintenance data system (MDS) data supplied by the Naval Sea Logistics Center and will be made after the repairs have been accomplished by fleet maintenance personnel.

Warranty identification depends upon whether the material is contractor-furnished equipment (CFE) or government-furnished equipment (GFE).

Aircraft and engine warranties cover the basic aircraft or engine and the CFE. The warranty markings and information are documented in the Miscellaneous/ History section of the aircraft logbook or engine's Aeronautical Engine Service Record (AESR).

The GFE items have a distinct and separate warranty. The warranty information is marked on the equipment and on any associated record cards. The work unit code assigned to GFE is usually 51000 or higher.

Naval Aircraft Tire Rebuilding Program

The NAVICP-Phil is responsible for centralized contracting for the rebuilding of naval aircraft tires. The NAVICP-Phil is also responsible for the complete administrative control of the rebuilding program. The cost of rebuilding a tire approximates to 36 percent of the cost of the new tire. Full participation of all activities in the rebuilding program will save a considerable amount of dollars.

It is the policy of the Navy that all aircraft tires are rebuildable. However, there are selected types of tires that are exempt from the rebuilding program because of technical or economic reasons. The types of tires that are not rebuildable are listed in the enclosure of FASOINST 13421.1.

The NAVICP-Phil is also responsible for the funding, allocation of rebuildable tires for rework and service, establishment of shipping procedures, and shipping logistics.

The user activities must exert the effort to generate repairable tires. Strict inspection and screening procedures must be performed in the determination of tires to be rebuilt. Inadequate screening of tires can result in shipping rebuildable tires to a Defense Reutilization and Marketing Office (DRMO) as scrap. In some cases, tires that should be marked as scrap are shipped to the rework facility.

The elimination of age shelf/service limits on aircraft tires, as well as the elimination of maximum rebuild level occurrences, makes good stock control and issue practices necessary. For both new or rebuilt tires, the oldest tires must be issued first. The date of manufacture is basis for issuing the tires. The date of rebuilding must not be used for issuing procedures. The tires are marked with the manufacture date included with the serial number. The serial number consists of a maximum of 10 characters (alpha or numeric). The first four characters is the date of manufacture in the form of a Julian date. Tires that are manufactured before this method have manufacturing dates separate from the serial number and are identified by month and year, or day, month, and year.

The system of color coding tires to indicate the manufacture date helps in the identification and issue processing. A strip of colored tape imprinted with manufacture date, and diamond shape to designate rebuilt tires, is applied around the circumference of the tire.

Tires that have been removed from aircraft and returned to the tire shop must be thoroughly inspected by a qualified inspector to determine their disposition. The appropriate condition code tag must be affixed to the tires as a result of the inspection. Rebuildable tires must be assigned condition code F and condemned tires with condition code H. Tires identified with condition code H will be shipped to the nearest DRMO or property disposal officer. Ship tires in condition code F according to the MRIL or via ATAC Hub.

FLEET READINESS ACTION GROUP (FRAG)

The FRAGs are fictional units established within each naval aviation depot. The FRAG is assigned responsibility to help the fleet achieve maximum aircraft readiness. The FRAG uses technical and logistics resources available at a NADEP using industrial and engineering resources in resolving critical supply support problems on an exception basis. The FRAG operations are limited to the weapons system supported by the particular NADEP, CFA, and depot repair point. When critical maintenance/material problems cannot be solved using normal procedures, contact the FRAG by naval message or telephone.

NAVAL INVENTORY CONTROL POINT-PHILADELPHIA RECLAMATION PROGRAMS

The overall NAVICP-Phil reclamation program consists of several subprograms. These programs are differentiated by the item undergoing reclamation (for example aircraft, engines, and so forth).

Definitions

The following are some of the terms commonly used in the reclamation program:

- **AMARC—** Aerospace Maintenance And Regeneration Center located at Davis-Monthan Air Force Base, Tucson, Arizona.

- **Component Reclamation (COMREC)—** The reclamation of required components from excess/obsolete NAVICP-Phil-managed repairable assemblies designated as reclamation candidates by NAVICP-Phil.

- **Emergency Removals—** The removal of material from stricken/stored aircraft from AMARC to satisfy issue group I or II requisitions.

- **Inviolate Aircraft—** Those aircraft from which emergency removals cannot be made without approval from the CNO per OPNAVINST 5040.8. These aircraft are not candidates for reclamation.

- **Master Save List—** This is a consolidation of the Navy and other DOD activity requirement lists. This list is prepared by NAVICP-Phil and used by the activity performing the reclamation of items.

- **Non-inviolate Aircraft—** Those aircraft for which CNO approval is not required for emergency removals. There is no requirement for replacing material removed from this aircraft.

- **Save List—** A listing prepared by NAVICP-Phil identifying the components to be salvaged. These components will be salvaged from the applicable aircraft, engines, repairable components, and end items of support equipment that is being reclaimed.

- Support Equipment (SE) Reclamation— The reclamation of required components from excess/obsolete end items of SE designated as reclamation candidates by NAVAIR/NAVICP-Phil.

Stricken Aircraft Reclamation and Disposal Program (SARDIP)

The SARDIP is the reclamation of required components from excess/obsolete aircraft. The SARDIP applies to the following specific aircraft conditions:

- Operable aircraft stricken from the operating inventory and designated by the CNO for reclamation. These aircraft are generally stored and reclaimed at AMARC. Other reclamation activities may be designated by Naval Air Systems Command.

- Crash/battle damaged aircraft that are not operable and which are stricken by CNO and reclaimed on site.

The NAVAIRSYSCOM assigns the SARDIP designators to both types of aircraft mentioned above. The master save list is used to identify the components to be reclaimed.

Reclamation in Lieu of Procurement (RILOP)

The RILOP applies to aircraft engines stricken by NAVAIRSYSCOM and designated for reclamation. These engines are assigned a RILOP designator by NAVICP-Phil, and redistribution action is taken by NAVAIRSYSCOM to position the engines at a designated reclamation site. The reclamation action is accomplished by using the master save lists.

Component Reclamation (COMREC)

This program applies to NAVICP Philadedelphia-managed repairable assemblies that are determined to be excess to total system needs by cognizant inventory manager. Reclamation is accomplished at the designated reclamation activity and by use of the NAVICP-Phil save list.

Support Equipment (SE) Reclamation

This program applies to NAVAIRSYSCOM/ NAVICP Philadelphia-managed support equipment items, included in the support equipment candidate list developed by NAVICP-Phil and NAVAIRSYSCOM, which have been designated as candidates for survey by the repair depot.

Emergency Removal

When required, NAVICP-Phil may pass to AMARC a fill or kill requisition requesting removal of a part from a stricken or non-inviolate aircraft in storage. Upon receipt of the request, AMARC determines if the material or substitute is available, In case of a substitute, NAVICP-Phil will determine if the item is acceptable. If the requisition is filled, AMARC provides the shipping information of the material to NAVICP-Phil.

When NAVICP-Phil desires removal of a part from an inviolate aircraft, an authorization must first be obtained from CNO. If the CNO authorizes the removal

of the part, the transaction is processed in the same manner as for non-inviolate aircraft.

In some cases, the CNO will advise that a payback is required for the removed item. In this case, AMARC will advise the type, model, and series (TMS) and serial number from which the part was removed and initiate a payback requisition.

FLEET-CONTROLLED MATERIAL

The items designated as fleet-controlled material are under the distribution, reporting, requisitioning, rationing, and issue control of air type commanders or designated agents. These type commanders (TYCOMs) are the COMNAVAIRPAC, COMNAVAIRLANT, CNATRA, and COMNAVRESFOR. The list of items included as fleet-controlled maybe found in the consolidated fleet-controlled material list (CFCML). Customers must submit requisitions for fleet-controlled items to NAVICP-Phil via Defense Automated Addressing System (DAAS). The retrograde material is processed according to the type commander's directives and the MRIL. If the NRFI turn-in is beyond the repair capability of the activity, a beyond capability of maintenance (BCM) authorization is requested from the TYCOM via a naval message. When submitting the request to perform a BCM 4 actions, provide the following information to the TYCOM:

- National item identification number (NIIN) of required item(s)
- Document number(s)
- Quantity of material
- Latest status of the requisitions

Refer to FASOINST 4000.7 for additional information concerning fleet-controlled material procedures. The procedures for rationing control of aeronautical material are described in the type commander's instruction of 4470 series.

AVIATION MAINTENANCE MANAGEMENT TEAMS

The mission of the aviation maintenance management teams is to advise and assist activities on a scheduled basis by identifying maintenance program deficiencies, recommending performance improvements, and providing training. This mission is viable in today's increasing complex maintenance and material management programs. It has been expanded to involve upline commanders who are responsible and accountable for operational readiness, material readiness, and material support. To evaluate performance and identify areas needing improvement, activity performance levels must be established using statistical methods. The performance improvement process is based on a local plan and implementation of actions to achieve the objectives of the plan. To evaluate and assist activities in the performance improvement process, performance improvement teams and performance assistance teams are established at ACCs/TYCOMs. The ACC/TYCOM will schedule each activity to be inspected. Commanding officers may request the assistance of either team between regular scheduled times, if necessary.

Performance Improvement Teams

Generally, performance improvement teams consist of an aviation ground maintenance officer and various E-7, E-8, and E-9 Navy and Marine Corps aviation maintenance and supply personnel.

Performance improvement teams inspect and evaluate an activity's performance level and its ability to achieve CNO goals and objectives in areas of readiness, safety, and deployability. The evaluation includes the following:

- An inspection of NAMP compliance
- A performance level assessment based on measurements of efficiency, effectiveness, quality, budget status, innovation, quality of work life, and productivity
- The effects of leadership on achieving mission accomplishment through optimum use of manpower, material, machinery, methods, and environmental factors
- The level and quality of involvement among supporting and supported activities

This evaluation is made while the activity is continuing routine operations and maintenance. All commands or organizational units within an activity's operational and administrative chain, such as carrier air wings (CVWs), marine aircraft groups (MAGs), aircraft intermediate maintenance departments (AIMDs), and aviation support divisions (ASDs), attend the pre- and post-inspection briefings. Based on the findings, recommendations are submitted via the chain of command.

Performance Assistance Teams

Performance assistance teams are available upon request or as directed by the ACC/TYCOM to provide assistance and training to activities in evaluating and improving their performance levels. This assistance includes techniques in performance measuring, strategic planning, and removal of roadblocks hindering mission accomplishment. The teams will conduct an in-depth performance evaluation of the activity. While assisting an activity, supporting and supported activities are usually included. The teams identify performance improvement opportunities and assist in implements- tion of performance improvement actions.

AVIATION DEPOT LEVEL REPAIRABLE (AVDLR) MANAGEMENT

Strict compliance to procedures is a must during the requisitioning, turn-in, and carcass tracking process of AVDLRs. Managing repairable material has become increasingly important to the Navy. While the number of consumables managed by the Navy has declined, the number of repairable has increased. Because most repairable items are high cost, intensive management is required.

A two-priced structure was established for DLRs. hey are the standard price and net price. The price charged depends on whether or not there is a related NRFI turn-in. The standard price is charged if there is no turn-in available. The net price is charged for DLR requisitions that have a turn-in. The net price includes the repair cost, replacement fee (for condemned turn-in), and surcharges. The difference between the two prices is the carcass value. The Management List-Consolidated (ML-C) information of the Federal Logistics (FED LOG) data on compact disc contains the prices of DLR items.

REQUISITIONING

Depot level repairable (DLRs) are designated Appropriations Stores Account (APA), Navy Stock Account (NSA), or interim supported based on the cognizance symbol assigned.

In general, each requisition for an NSA DLR will require a creation of a financial obligation of end-use funds. The following transactions do not require an obligation of end-use funds:

- Stock replenishment requisitions for Special Accounting Class (SAC) 207 units that have not converted to end-use
- Re-AVCAL, re-SHORCAL, re-COSAL requisitions for activities using end-use procedures

Price Obligation

The price obligated is the net price when an exchange turn-in is or will be made. The standard price will be obligated when there is no turn-in. The APA and interim support DLRs are requisitioned at standard price but do not require a financial obligation. Both APA and interim support DLR requisitions do not result in an expenditure of end-use funds.

Use the Military Standard Requisitioning and Issue Procedures (MILSTRIP) when ordering DLRs from the supply system. Requisitions from an end-user maybe submitted by using a DD Form 1348 (6 pt), NAVSUP Form 1250-1, or electrical means (computer). The common method of submitting requisitions off station or off ship is by message via DAAS. High priority requisitions may be transmitted by telephone.

Advice Codes

An advice code is a mandatory entry in requisitions for DLR items. The advice codes used for requisitioning DLRs are 5A, SD, 5E, 5G, 5R, 5S, 5V, 5W, 5X, 5Y, 52,53,54,56, and 57. The definition of these advice codes are listed in NAVSUP P-437, NAVSUP P-485, and NAVSUP P-545. Requisitions that are submitted with invalid or missing advice codes will be rejected with status code RK.

OUTFITTING

The Naval inventory control points (NAVICPs) develop allowances for ships and shore stations periodically. The allowances are developed based on the equipment/aircraft to be supported during the next operating cycle. These allowances are tailored to each activity and published in the following forms:

- Aviation Consolidated Allowance List (AVCAL)
- Shore Consolidated Allowance List (SHORCAL)

In addition to the allowances discussed above, the NAVICPs also provide Maintenance Assist Modules (MAMs) and Test Bench Installations (TBIs). The

drawdown requisition for each type of allowance is described in the next paragraphs.

Drawdown Requisitions for AVCAL

The central outfitting funds are charged for drawdown requisitions of the initial or increase in AVCAL allowances of NSA DLRs. After converting to end-use, drawdown requisitions are submitted to NAVICP-Phil. Submit requisitions using demand code N, signal code C or L, advice code 5D, and fund code QZ for 7R Cog items. Requisitions for APA DLRs must cite demand code N, advice code 5D, and fund code Y6. Submit requisitions for APA DLR items via normal requisitioning channels.

Drawdown Requisitions for SHORCAL

The drawdown requisitions for initial or increased SHORCAL allowances for NSA DLRs are chargeable to central outfitting funds held by NAVICP-Phil. Submit drawdown requisitions to NAVICP-Phil with demand code N, advice code 5D, and fund code QZ for 7R Cog items.

Drawdown requisitions for APA and 0_ Cog DLRs must cite demand code N and advice code 5D. Use the fund codes with the appropriate cognizance symbol. Use fund code 26 in requisitions for APA DLR items. Use fund code Y6 in requisitions for interim support (0_ Cog) DLR items.

Maintenance Assist Modules

The items designated as Maintenance Assist Modules (MAMs) for aviation applications are not included in the activity's AVCAL or SHORCAL as part of fixed allowance. Most MAMs are 7R Cog items and are used as support equipment, Initial outfitting of MAMs are identified through the AVCAL or SHORCAL process at NAVICP-Phil. The MAM requirements are *pushed* by NAVICP-Phil and are centrally funded at NAVICP-Phil by central outfitting funds. The supply officer receiving the initial outfitting MAMs *pushed* by NAVICP-Phil must issue them on custody of the Intermediate Maintenance Activity (IMA). Replacement of a MAM DLR can be accomplished by using the normal requisitioning procedures. The policy and procedures for MAMs are described in FASOINST 4790.1.

Test Bench Installation

The items designated as test bench installation (TBI) are similar to those black boxes installed in aircraft for which the test bench is designed to test and check. The TBI items are identified during the AVCAL or SHORCAL process at NAVICP-Phil, but they are not included as part of the fixed allowance. The initial outfitting requirements for TBI items will be *pushed* by NAVICP-Phil to the activity. Upon receipt of TBI items by the activity, the supply officer assigns their custody to the IMA. Items designated as TBI are not carried in the stock record of the supply department.

DLR TURN-IN

Turn-in of DLRs because of excess in allowance, NRFI retrograde, or material transfers must be processed properly. Improperly processed DLR turn-ins can delay carcass processing and affect readiness because of a decrease in asset availability. Loss of DLR turn-in during shipments could deprive the TYCOM or activity's operating budget from receiving a credit. Losses may also create additional charges to the activity's operating fund; whereas, the activity is charged the standard price instead of the net price. Furthermore, DLR losses could require the NAVICP to spend DBOF funds to buy new replacement items.

Exchange Related

In support of the one-for-one concept, an NRFI DLR is turned-in as an exchange for the requisitioned item. The NRFI DLR is returned to the supply system on a DD Form 1348-1 or DD Form 1348-1A with document identifier BC1/BC2. All the associated documents, records, or logbooks must be attached to the material being turned-in. Use management code E and the document number of the replacement requisition on the shipping document. This document number will be used to match the requisition and turn-in document numbers in the NAVICP carcass tracking record (CTR). The turn-in is shipped to the nearest ATAC Hub or to the designated support point (DSP) if the activity is not under ATAC or the item is excluded from shipment under ATAC.

Excess

Repairable items in excess of the fixed allowance are turned-into the supply system. Excess condition is a result of fluctuating demand pattern, decrease in

supported number of aircraft or equipment, or recomputed AVCAL or SHORCAL.

RE-SHORCAL.— Excess DLRs to the new fixed allowance as a result of re-SHORCAL process must be identified and expended. Expend the excess DLRs from the W purpose. For an activity that performs a Transaction Item Report (TIR), process the excess items as follows:

- Pick up the excess items in A purpose (wholesale).
- Report the transaction to the NAVICP using a D6. document identifier transaction with project code RDE, management code C, and an appropriate fund code. Use fund code QZ for 7_ Cog items. For APA Cognizance items, use fund code 26. For 0_ Cog items, use fund code Y6.

Non-TIR activities ship excess material to the nearest TIR activity. The shipping document is prepared as follows:

- Leave the document identifier block blank,
- Use project code RDE,
- Use management code C,
- Use the fund code in the same manner as in re-SHORCAL excess.

NOTE: Credits granted for turn-ins with fund code QZ will go to the central outfitting account maintained at NAVICP-Phil to satisfy outfitting deficiencies created by movement of aircraft between activities.

STOCK REVIEWS.— Stock excess reviews of materials in W or L purpose must be conducted on a regular basis. Material identified as excess is expended from inventories. Transaction Item Reporting (TIR) activities must pick up the excess items in A purpose (wholesale) and submit the TIR to the NAVICP. The TIR must be submitted with a document identifier D6_, project code RDE, and management code C. For 7_ Cog items, use the same fired code that is being used locally. For APA Cog items, use fund code 26. Use fired code Y6 for 0_ Cog items.

NOTE: The local fund code used for excess will direct any credit granted by the NAVICP to the operating budget/TYCOM.

Non-TIR activities ship excess material to the nearest TIR activity on a DD Form 1348-1 or DD Form 1348-1A, The document identifier of the shipping document must be with a blank. Use project code RDE, management code C, and the appropriate fund code for the cognizance symbol of the material as described above.

RE-AVCAL.— Excess material is identified after updating the basic material file with the revised AVCAL allowance. Offload and turn-in excess material to the nearest TIR activity using the DD Form 1348-1 or DD Form 1348-1A as the shipping document. Assign document identifier RDE the management code Con the shipping document. For 7R Cog items, use fund code QZ. Use fund code Y6 for APA and 0_ Cog items.

If the item being turned-in is a 7_ Cog, annotate the shipping document with *NRFI or RFI DLR TURN-IN FOR POSSIBLE CREDIT* in the remarks block (AA-BB).

Engineering Investigation (EI)/Quality Deficiency Report (QDR)

An engineering investigation (EI) is a report of material failures. The quality deficiency report (QDR) is a report of the deficiency of new or newly reworked material. Return EI/QDR material exhibits via the ATAC Hub transportation channels on a DD Form 1348-1 or DD Form 1348-1A turn-in document. Use document identifier BEI (for EI) and BQD (for QDR) on the turn-in document. Annotate condition code L in record position 71/B1ock P of the DD Form 1348-1 turn-in document. Put the assigned EI/QDR control number in Block D of the DD Form 1348-1 turn-in document. Additional turn-in requirements are as follows:

- Ensure all documents accompanying the material exhibit contain the EI/QDR control number.
- Attach an EI/QDR label to the container of each material exhibit. These labels come in two different sizes: 1” x 18” (NAVSUP Form 1398) and 1” x 6” (NAVSUP Form 1398-1).
- Mark all accompanying paperwork with EI/QDR.
- Use the same document number as the replacement requisition on the turn-in document to complete the carcass tracking loop. Do not use the document number under which the deficient material was originally received on the turn-in document. If the turn-in document number does not match the replacement requisition, submit an advance BK2 with response code B to the NAVICP. Refer to NAVSUP

P-437, NAVSUP P-485, or NAVSUP P-545 for the BK2 document format.

Weapons Replaceable Assembly (WRA) Turn-in

A weapons replaceable assembly (WRA) must be turned-in as a complete unit. If a shop replaceable assembly (SRA) is missing, the activity that turned-in the WRA will be billed for the SRA if no turn-in for the SRA is recorded.

The naval aviation depot or other repair facility submits the replacement requisition for the missing SRA. The requisition will have an advice code 5G if the activity who turned-in the WRA can be identified. An advice code 5A will be used when the activity who turned-in the WRA cannot be identified. If the turn-in activity can be identified through any of the accompanying documentation, the repair facility sends a variance report to the NAVICP. The variance report includes the following information:

- National stock number (NSN) of the WRA,
- turn-in document number of the WRA,
- NSN and nomenclature of the missing SRA,
- turn-in document number of the missing SRA (if available), and
- requisition number for the replacement of the missing SRA.

The NAVICP uses the information in the variance report to search the carcass tracking record (CTR) if the missing SRA was turned-in. If a turn-in is recorded in the CTR, the carcass tracking loop and additional billing on the repair facility's replacement requisition is closed. If no turn-in is recorded, the NAVICP sends a follow up to the activity that turned-in the WRA requesting information on the SRA. If the turn-in activity cannot provide the information, the activity will be billed for the value of the missing SRA.

Advanced Traceability and Control (ATAC)

The ATAC program has simplified the DLR retrograde process. The ATAC program provides the following efforts:

- Provides traceability and accountability
- Establishes consolidation and shipping nodes and centralize processing Hubs
- Ensures processing of TIR for retrograde material to the NAVICP
- Reduces carcass tracking follow-ups
- Reduces delays in transportation and processing
- Provides database of information for tracking retrograde from receipt in ATAC to delivery to designated repair point (DRP)/designated support point (DSP)

Refer to NAVSUPINST 4421.20 for detailed information on the ATAC program.

CARCASS TRACKING

The carcass tracking program ensures accountability and return of repairable retrograde in the Navy supply system. Repairing a non-RFI depot level repairable (DLR) item is less expensive than buying a new replacement item. In most cases, it is also faster to repair than to buy the items. Since DLR items are expensive and need a long procurement lead time, repair of non-RFI DLRs become the main source of replenishment. Therefore, it is imperative that non-RFI DLRs be returned according to the procedures in NAVSUP-P 545. Delay or erroneous shipment of a DLR retrograde adversely affects material availability and impacts the Navy's readiness.

Definitions

Some of the terms specifically used in the carcass tracking program are listed in the following definitions. Knowing these terms will help you learn and understand the scope of the program easier.

Freight agent—A commercial activity under contract to the Navy. The freight agent at Nodes is responsible for the DLR receipt and consolidation and forwarding the DLR to the Hub. The agent at the Hub is responsible for processing the DLR receipts and subsequent delivery to DRP/DSP. Additionally, the freight agent maintains the transportation data for information and research.

Hub—A Navy-operated facility that provides verification of a drawing/part number to the stock number of the DLR item. The Hub prepares and submits a report of discrepancies for discrepant receipts. The Hub also determines the DRP/DSP of the item and repacks material for shipment. After processing the receipt of a DLR, the Hub submits the transaction item report (TIR) to close the carcass tracking.

Node-A DLR collection, consolidation, and transshipment point. The Node may be operated by a freight agent or government personnel. The Node does not perform validation of&awing/part number to stock number or submit a TIR.

Managing the Turn-in

Strict discipline in tracking the movement of DLRs is required at all supply system activities. The local procedures must include monitoring of the DLR from the time of requisition to the disposition of the turn-in. The supporting supply activity must monitor the DLR turn-in throughout the repair cycle in the intermediate maintenance activity (MA). If the IMA repairs the NRFI turn-in, the repaired item is returned to stock to replace the asset that was issued to the customer. 'Ibis process is considered as a closed *loop with* all actions completed within the activity and does not require a system carcass tracking.

System Carcass Tracking

A total system carcass tracking is required when an NRFI turn-in cannot be repaired locally and must be returned for repair at the depot repair facility. The total system carcass tracking procedures also apply to the DLR requisitions that are passed off station. These requisitions are passed off station to replenish stock assets or for direct turn over (DTO) to the customer, The DTO requisitions are submitted because the requisitioned item is not in stock/not carried (NIS/NC) in the supporting supply activity. The DTO requisition is submitted to the stock point or the inventory control point. The total system carcass tracking employs automated procedures involving CTRs to record the actions necessary for effective monitoring.

Carcass Tracking Records (CTRs)

The carcass tracking records (CTRs) are the data records for information essential to the effective tracking or monitoring of DLR carcasses. Carcass tracking records are established at the NAVICPs and user (customer) activities that stock and issue DLRs.

NAVICP CARCASS TRACKING RECORD.— The purpose of the NAVICP CTR is to record and store data that applies to the issue/return of DLRs to provide proper inventory accounting of carcass returns. This record serves as the basis to monitor the DLR carcass turned-in by the user (customer). The NAVICP uses this record to determine if other actions should be performed concerning outstanding carcass turn-ins. Some of these actions include generating follow-up inquiries and forwarding additional billings to the customers.

Each NAVICP maintains a master CTR containing transactions received from user (customer) activities. These transactions relate to the issue/receipt of DLRs under the NAVICP's cognizance and a NRFI DLR turn-in has been or will be turned-in as an exchange for an RFI DLR. All transactions and reports citing an exchange advice code received by the NAVICPs are recorded on the CTR and will open a record on the carcass tracking file. These transactions are identified with document identifiers **A0_** (requisitions), **A4_** (referrals), **D7_** (issue TIR), **B7A** (non-TIR issue reports), **D6_** (receipt TIRs), **D6R** (shipment notification), and **FTA** (automatic material returns to other services). In essence, an issue transaction or requisition citing an exchange advice code will open a record on the NAVICP's CTR. The matching receipt of NRFI turn-in transaction record reported by the DRP/DSP to the DRP will close the CTR.

If records are not closed within the specified time frame, NAVICP-Phil will send a follow-up inquiry using document identifier BK1 to the requisitioner. The time frame for sending the follow-up for requisitions citing advice codes of 5G, 5V, or 56 starts from the date of requisition. For requisitions with service code N, NAVICP-Phil sends the follow-up 45 days from the requisition date. For requisitions with R or V service code, NAVICP-Phil sends the follow-up 60 days from the date of the requisition. The NAVICP-Mech sends the follow-up 90 days from the requisition date.

The time frame for sending the follow-up for requisitions citing advice code of 5R, 5Y, 5S, or 52 starts from the date of issue of an RFI DLR. For requisitions with an N service code, NAVICP-Phil will send the follow-up 45 days from the issue date of the RFI DLR. For requisitions with service code R or V, NAVICP-Phil sends the follow-up 60 days from the issue date of RFI DLR. The NAVICP-Mech sends the follow-up 90 days from the issue date of RFI DLR.

If the requisitioner fails to provide a satisfactory response to the BK1 follow-up inquiry, an additional billing to cover the carcass value could result. If the CTR shows that a transshipper is involved, the NAVICP sends a BK5 follow-up inquiry to the transshipper instead of a BK1 to the requisitioner.

USER ACTIVITY CARCASS TRACKING RECORD FILE (CTRF).— User activities use this file

to store data that may be required to respond to NAVICP's follow-up inquiry. The primary data in the CTRF is the proof of turn-in or shipment of DLR carcasses. The CTRFs established in other activities may vary according to the operating system being used. Normally, records are established in the CTRFs when a customer submits a DLR requisition citing an exchange advice code. Under mechanized procedures, the CTRP records are established on the file via the mechanized Master Repairable Item List (MRIL). The records in mechanized procedures are updated with shipping data input by shipping personnel. User activities using the manual method develops the local procedures for maintaining and using the CTRF. User activities use the information in the CTRF to respond to the NAVICP's follow-up inquiries.

TRANSSHIPPER/HUB ACTIVITIES CTRF.— This record contains information on receipts of NRFI DLRs from user activities. The records of receipt also include the corresponding "issue" when the NRFI DLRs are transshipped to the DRP/DSP. Some transshipper activities are also the DRP/DSP, in which case the NRFI DLR is taken up in F condition stock. These transactions are recorded in the transshipper's CTRF for reply to potential BK5 follow-up from the NAVICP. Transshipper activities respond to the follow-up by using the BK6 document.

Carcass Tracking Documents

When a transaction remains open in the NAVICP's CTR after the specified time frame, the NAVICP initiates a carcass tracking action. The first transaction the NAVICP sends is the BK1 follow-up inquiry to the requisitioner when the NAVICP CTR shows NRFI DLR turn-in is outstanding. The requisitioner is required to respond to the BK1 by submitting a BK2 document indicating the status of the NRFI DLR turn-in. Depending upon the response code on the BK2 document, the NAVICP CTR may close the record or process an additional billing.

If the NAVICP rejects the BK2 from the activity, the NAVICP will create a new document (BKR) with an appropriate reason code in record position 65. The BKR document is used by the NAVICPs to reject BK2 documents submitted by an activity for which neither a record of receipt nor shipment of an NRFI DLR is recorded. Consequently, the NAVICP will send the BKR document to the applicable activity.

If the activity does not provide an acceptable reply to the BKR, the NAVICP will send a BK3 document to the activity. A BK3 is a notification of additional billing for the carcass value of the NRFI DLR. The activity may respond to the BK3 document with a BK2 reply if proof of NRFI DLR turn-in can be established; if not, the additional charge will stand.

The additional billing may be reversed by the NAVICP. If the NRFI DLR turn-in has been made, the NAVICP may process a reversal to the BK3 and notify the applicable activity. In this case, the NAVICP sends a BK4 (reversal of the additional billing notification) document to the applicable activity.

Carcass Track Aids

The automated supply system provides listings, printouts, and reports that help in the carcass tracking of DLRs. Since procedures change, you should familiarize yourself with the most updated versions and formats of these materials. Some of these carcass tracking aids are described in the following paragraphs.

INCOMPLETE DLR REPORT (IDLRR).— In an activity using the automated system, an external carcass tracking starts when a DLR is issued to a requisition with an exchange advice code. The referral of a DIU requisition (DI A0_) with an exchange advice code will also start external carcass tracking.

If the activity makes the issue to a supported unit (DI X31), the activity will be tracked for the carcass. If the issue is made to a nonsupported unit (DI X34), this unit or the supporting receiving activity for the unit will be carcass tracked.

When the issue or DTO requisition documents are processed, they will create a record for Report 57 in a DI B7A format. Report 57 is submitted to the NAVICPS monthly. The B7A document will not process to the Report 57 until the corresponding DTO receipt (DI X71) is processed. The B7A document will start the carcass tracking at the NAVICP Philadelphia and Mechanicsburg.

NOTE: For DI X34, the receiving activity's unit identification code (UIC) will be in the B7A for the NAVICP to carcass track the receiving activity and not the issuing activity.

When you process a DI X31 or A0_ (DTO) transaction, a BCM counter will be set in the computer system and a skeletonized BCM data will be generated. The skeletonized BCM data must be updated by you with firm shipping data and reinput to the computer. When the BCM is reentered to the computer, it will clear the BCM counter and record a

D6R document on the Report 57. When Report 57 is sent to the NAVICP, the document D6R will turn off carcass tracking to your activity.

Refer to the applicable automated systems procedures for producing the IDLRR and how to clear the records when the DLR flag is set.

DLR PRINT.— This document provides a DLR transaction report for carcass tracking and turn-in. The report will list selected repairable tracking file (RTF) records for which there is an off-ship requisition in the requisition file. It is also used as an internal report for carcass tracking audits. The computer system uses the DLR indicator settings to produce this report. In the basic requisition file, the DLR indicator of D means the item is a DLR and requires carcass tracking. The DLR indicator C means the item is a mandatory turn-in repairable other than DLR and does require carcass tracking. The DLR print consists of three parts. Part I is a list of RTF records with a DLR indicator of D. Part II is a list of RTF records with DLR indicator of C. Part III list those requisitions for DLR stock replenishment that have been deferred.

Labels for DLR Material

The purpose of the standardized labels throughout the DLR pipeline is to enhance DLR visibility. Proper identification of DLR items facilitates material movement and processing. The DLR labels are standardized (3" x 5" or 2" x 3") with a distinctive blue background and yellow lettering. These labels are available from the Navy supply system stock as NAVSUP Forms 1397 and 1397-1.

AVIATION CONSOLIDATED ALLOWANCE LIST

The aviation consolidated allowance list (AVCAL) is developed and published by the NAVICP-Phil. The AVCAL lists the range and depth of aviation material that is authorized to be stocked by a ship to support maintenance and operations of embarked aircraft. The AVCAL incorporates consumer level requirements that are in agreement with approved maintenance plans and are tailored to each using activity. The fixed allowance requirements included within the AVCAL are negotiated with the NAVICP, cognizant TYCOM, and user activity at AVCAL quality review conferences (AQRCs). The result of the AQRCs will ensure propositioning of retail stocks at the operating site to provide adequate material support. The intent of the AVCAL is to provide optimum ship's effectiveness and aircraft operational readiness in a combat environment.

NOTE: Ashore activities use a shore-based consolidated allowance list (SHORCAL) in place of the AVCAL. Both procedures are basically the same. The SHORCAL is ordinarily associated with consumer level support for aviation depot and field level repairable. However, the SHORCAL includes both consumable and repairable allowances when initially established for an operating site. Subsequent SHORCAL requirements for consumable items must be for new aircraft or a weapons system.

TERMS AND DEFINITIONS

The following paragraphs discuss some of the terms peculiar to the AVCAL

- Allowance Change Request-Fixed (ACR-F) is the document submitted to NAVICP-Phil by the operating site requesting a change in quantity to a fixed allowance. ACR-Fs are submitted on NAVSUP Form 1375.

- Allowance Requirements Register (ARR) is an allowance document containing potential range and depth of aviation material to support maintenance requirements anticipated during a 90-day period. It is based on estimated reliability factors or failure rates derived from actual system-wide usage.

- Beyond Capability of Maintenance (BCM) is an action taken by IMAs when repair is not authorized at that level or when an activity is not capable of doing the repair because of a lack of equipment, parts, facilities, technical skills, technical data, and so forth. Refer to OPNAVINST 4790.2 for a list of BCM codes.

- Deckload includes total aircraft and equipment types and numbers embarked on a particular ship.

- Endurance Period is the length of time, expressed in months, a consumer level inventory is required to support an operating site's mission without resupply.

- Fixed Allowance is an authorized level of repairable regarded as the maximum level of inventory to be maintained.

- Maintenance Support Packages (MSPs) contain consumable, low-cube, nonhazardous maintenance items that are maintained in MSP cabinets. Under the fleet aviation logistics support center (FALSC),

shipboard aviation stocks are off-loaded to designated naval air stations for inventory management purposes. MSP material is stored in designated cabinets in mockup staging areas. The MSP cabinets will be positioned on the ship at the time of re-AVCAL.

- Operational Support Inventory (OSI) is the quantity of prepositioned material required to support the planned aircraft program and maintenance mission of an operating site. The OSI is composed of "fixed allowance" for DLR and FLR as well as "fixed" operating level for consumables.

- Order and Shipping Time (OST) is the interval between the time a stock point processes a stock replenishment requisition to a supplier and receipt of an NAVICP (supplier) in-stock item. The OST is currently fixed at 17 days.

- Supplemental Aviation Spares Support (SASS) is commonly retimed to as a pack-up kit that is required to support detached aircraft operations. The SASS is composed of DLR and FLR items. Authorized SASS require \ments are considered additive to an operating site's fixed allowance.

- The Weapons System Planning Document (WSPD) is a policy and planning document produced by NAVAIR. The WSPD provides the guidance necessary for the acquisition and logistics support of naval aircraft. The WSPD provides the number of aircraft at each site, levels of maintenance capability, pack-up requirements, carrier schedules, rotational aircraft assignments, and approved flying hours.

OSI REQUIREMENTS DETERMINATION

The community approach is used in determining the OSI requirements. This process is used for both repairable and consumable items as described in the following paragraphs.

Consumable Items

In a community approach, consumable requirements are determined by using the Ship's AVCAL Asset Demand Tape (SAVAST) from carriers that are supporting the same aircraft and equipment, including those undergoing re-AVCAL. This method is designed to maximize the range for irregular demand patterns. This method also minimizes the establishment of new items for the purpose of recording its number of demands. The community SAVAST process includes taking data from four recently deployed aircraft carriers and data characteristics off the SAVAST undergoing re-AVCAL and creating, a combined SAVAST. Items on the SAVAST that have positive average monthly demand (AMD) and are not applicable in NAVICP-Phil tiles are included in the preliminary products.

Repairable Items

A new technique has been implemented to determine the repairable fixed allowances for carriers/amphibious ships. Essential] y, the collective 3-M experience gained from recently deployed aircraft carriers is used as the basis to determine the baseline fixed allowance. In this manner the usage experience during deployment of all aircraft carriers is considered rather than that of a single carrier. Baseline fixed allowance is considered the standard aircraft carrier allowance and is incorporated into the preliminary AVCAL. Changes to the baseline fixed allowance formulate the basis of negotiations at the AQRC.

Initial Outfitting

The ARR columnar quantity is selected for AVCAL inclusion for weapons systems not previously supported.

Applicable Constraints

The attrition allowance quantities for items with identical ARR application on the previous and current AVCAL and reflect zero usage will be reduced to one. Protected aircraft and weapons systems are not subject to constraints. When requested by the type commander, additional exceptions to the constraint program maybe applied.

Preliminary Requirement

Stock levels developed from the mechanized requirements process are used as the point of departure in AVCAL negotiations. The established allowance or revisions during Readiness Improvement Program (RIP) reviews will be included into the preliminary AVCAL and be considered as NAVICP-Phil recommended quantities.

Readiness Improvement Program (RIP)

During the RIP, specifically selected aircraft/ systems are reviewed to identify logistics problems. As

a result of the RIP, some allowances at an operating site may or may not get adjusted. Increases in depth and additions to the range to the ship's allowance are implemented during the re-AVCAL.

Preliminary AVCAL Aids

The Naval Inventory Control Point-Philadelphia (NAVICP-Phil) forwards the preliminary AVCAL review aids to the applicable ship and cognizant TYCOM 45 days before the scheduled conference date.

AVCAL Quality Review Conference (AQRC)

The NAVICP-Phil convenes the conference to negotiate the allowance requirement of the operating site. The information in the site's maintenance data collection system is the primary element in negotiations of repairable items. The information includes the number of items processed as BCM, items repaired, and the TAT of repairs. The NAVICP-PMI adjusts the preliminary requirement levels to reflect the negotiated allowance. Authorized changes will be incorporated in the final AVCAL products that are forwarded to the operating site.

NOTE: The ACR-F is used to request an increase or decrease in allowance after the re-AVCAL.

Miscellaneous Requirements

Other OSI requirements include the industrial support package (ISP) and the supplemental aviation spares support (SASS).

The ISP is designed to provide an 8-month range and depth support for an aircraft carrier's LRCA and is currently incorporated in the community SAVAST.

The SASS is supplemental and not additive to the operating site's AVCAL quantity. These requirements are based on several factors, as follows:

- The level of repair
- The number and type(s) of aircraft to be supported
- Predicted removals
- The flying hours expected over an endurance period

LEVEL OF REPAIR.— OverhauI, repair, and maintenance of aeronautical material and weapons systems are performed within the broad guidelines of three levels of maintenance. They are the organizational, intermediate, and depot levels. A list of aircraft maintenance functions classified to the maintenance levels is provided in OPNAV Instruction 4790.2. It is important that you have a thorough knowledge of the maintenance that can be performed by your particular activity.

Organizational Maintenance.— The classification of O-level maintenance is applied to those maintenance functions normally performed by an operating unit on a day-to-day basis of its own operation. O-level maintenance can generally be grouped to include aircraft inspections: servicing, handling, removal and replacement of defective parts and components; aircraft service changes and modifications; and necessary recordkeeping and reports peculiar to O-level maintenance.

Intermediate Maintenance.— The I-level maintenance includes the repair and test of aircraft components and items requiring shop facilities and/or skills and equipment not available in O-level maintenance activities. Incorporation of aircraft service changes and modifications beyond O-level capabilities is also a function of I-level maintenance.

Depot Maintenance.— The classification of D-level maintenance is applied to those functions performed at industrial-type activities such as naval aviation depots (NADEPs). The NADEPs are normally located at major air stations and perform overhaul and major rework on aircraft, engines, and components on a scheduled basis as directed by NAVAIR. They also perform a customer service program for nonscheduled overhau/repair on components to satisfy not mission capable supply (NMCS) requirements.

Change of Maintenance Level.— When the maintenance level designation of an activity is changed, the range of supporting repair parts carried in stock as well as the equipment is involved.

A change to a higher level of maintenance requires additional spare repair parts. It is also possible that the supply level could be changed at the same time. Each NAVAIR outfitting and allowance list in use is screened carefully to make sure that all items required to support the higher level are procured.

A change to a lower maintenance level involves almost the same steps except in reverse manner. Many of the items required for support of a higher level are no longer required or allowed. Therefore, they must be returned to the supply system, and the equipment will normally be transferred to another activity for use.

Aircraft Types and Equipment Supported

The number and type of aircraft, including major equipment to be supported at the time of AVCAL or re-AVCAL, include all aircraft currently on station. Any additional aircraft or systems (numbers and/or types) whose initial Navy support will occur within 6 months after the requisition drop date must also be included in the AVCAL or re-AVCAL product.

Flight Hours Anticipated

The number of flight hours anticipated during a given period must be known before any effective planning can be done. The NAVAIR 00-35QB series of outfitting list shows the quantity, by aircraft type, of each item based on the number of anticipated flight hours.

In addition, there are several components that must be changed after a stated number of flight hours. These items are referred to as high-time removal. These items vary with aircraft type and modification. Each item designated as a high-time component has a service record card (SRC) with it. The SRC is attached to each component at all times except when the component is installed in an aircraft.

Aircraft engines are prime examples. Before a squadron reports for an extended deployment, you need to know how many engines will require change because of high time during the deployment. Normally, you add one or two additional engines to replace those that are damaged by FOD or contamination and arrive at the total number of engines that will be required. The total number of engines to be carried on board to support the air wing will be determined by the TYCOM, based on recommendations of the ship and air wing.

Stock Objective

The stock objective is usually stated in terms of 90-day increments. Stock levels at ashore activities are set for each category of material by the controlling item manager (IM). Stock levels afloat are set by the type or area commander.

AVCAL Schedule

Ships will be re-AVCAL'd before each deployment. Supplemental AVCALs to handle the addition or deletion of an entire aircraft type, or major avionics systems, will be provided upon request by the user and endorsement by the TYCOM.

The AVCAL schedule is a listing of actions required by applicable activities in relation to the number of days before the work-up schedule. Refer to FASOINST 4441.15 for complete AVCAL schedule of milestones.

Source Documents

The AVCAL process begins with the creation of deployment schedules and configuration planning. Upon notification that a ship is scheduled for deployment, an outfitting directive is published by the cognizant TYCOM. The directive contains information relative to the planned material requirements and configuration of aircraft to be embarked for deployment. The Aircraft Equipment and Configuration List (AECL) is the foundation of the outfitting directive. The AECL is verified for completeness and accuracy by the functional wing commanders. The outfitting directive is issued by the TYCOM to the operating site (OPSITE) and to NAVICP-Phil. The outfitting directive will specify aircraft and engine models and numbers of each model to be supported, monthly flying hours for each model, and the required date of receipt of final ship AVCAL output products. Upon receipt of the directive, NAVICP-Phil will verify aircraft deckload and flying hours with the weapons system planning document (WSPD) and will negotiate changes with the TYCOM, as required. To ensure adequate piece part support for end items of SE, NAVICP-Phil will review the IMRL for deckload applicability.

Past actual flying hours used in requirements calculations are derived from the CNO aircraft flight data series reports. Demand-based activity requirements that are extracted from the Ship's AVCAL Asset Tape (SAVAST) are accessed during the AVCAL requirements determination process.

Responsibilities

The following paragraphs describe the TYCOM, NAVICP-Phil, and ship's responsibilities for the AVCAL process.

TYCOM.— The functions of the applicable TYCOM concerning the AVCAL are as follows:

- Submit proposed AVCAL schedules to the NAVICP-Phil approximately 6 months before the beginning of each fiscal year with updates as they occur. The schedule will identify the ship to be outfitted and planned deckloads 1 year in advance.

- provide aviation ordnance gun and missile employment information to the NAVICP-Mech according to the AVCAL schedule.

- Issue AVCAL directives for each ship to be outfitted. The directives provide the following information

  — The identification and number of all aircraft and engine models to be supported

  — Rejected monthly flying hours for each model aircraft/engine

  — Engine and airframe ARRs to be used in the item selection process

  — Designation of aircraft/systems to be protected from constraint action with supporting rationale

- Issue validated IMRL to NAVICP-Phil listing end items of SE.

- Include a validated AECL with the outfitting directive. Make sure that AECL site validation is performed against the latest master AECL as provided by the NAVICP-Phil.

NOTE: The AECL is issued as part of the outfitting directive. It is given to the functional wing or squadron for validation and is then returned to the TYCOM for further validation. The TYCOM then sends the validated AECL to NAVICP-Phil for material computation.

- Provide representation for participation in the AQRC. The major areas of review include the following:

  — Negotiation of repairable fixed allowances as required

  — Consideration of interchangeability data

  — Historical demand data from the ship

  — Not mission capable supply/partial mission capable supply (NMCS/PMCS) requirements

  — Approved changes to the maintenance plan affecting AVCAL-supported weapons systems/subsystems

  — All quantities in excess of 99

  — All items with a unit of issue other than *each*

  — Navy Stock Account/Defense Logistics Agency (NSA/DLA) items with unextended deficiency value of over $200.

- Advise the NAVICP-Phil as soon as possible of deckload changes and negotiate AVCAL modifications as late changes may dictate.

Ships.— When directed by the TYCOM, the ship provides NAVICP-Phil with the SAVAST extraction of data from the master record file (MRF) in the format outlined in enclosure 1 of FASOINST 4441.15. Additional responsibilities of the ship areas follows:

- Advise NAVICP-Phil 60 days before the review of those items that have been selected for the local repair cycle asset (LRCA).

- Validate onboard general-purpose electronics test equipment (GPETE) through the tailoring of the IMRL. Forward results of validation to NAVICP-Mech requesting production of a COSAL supplement.

- Notify NAVICP-Phil via message of the requisition drop date subsequent to receipt of final products, but at least 1 week before the drop date.

- Provide representation for participation in the AQRC. The representative will provide the preliminary fixed allowance package, all associated BCM and repair data, all maintenance data to substantiate any claims of discrepancy, justification for existing/forecasted maintenance capability, TAT substantiation, and a current individual component repair list (ICRL). All LRCA items to be negotiated are substantiated by activity usage data.

NAVAL INVENTORY CONTROL POINT-MECHANICSBURG.— The NAVICP-Mech will forward the aviation ordnance (AVORD) to NAVICP-Phil via tape 55 days before the scheduled AQRC date. Upon receipt of the GPETE deckload from the ship, Mechanicsburg will prepare a COSAL supplement. For GPETE validations submitted subsequent to COSAL supplement cutoff, individual APLs will be identified and forwarded to the applicable ship. A cover letter is provided to specify the purpose for which the APLs are forwarded.

NAVAL INVENTORY CONTROL POINT-PHILADELPHIA.— The NAVICP-Phil is responsible for the following actions:

- NAVICP-Phil will negotiate AVCAL schedules with the cognizant TYCOMs approximately 6 months before the beginning of each fiscal year, with updates as they occur.

- Upon receipt of the outfitting directive, NAVICP-Phil will verify deckload and projected flying hours with the weapons system planning document

(WSPD), negotiate changes with TYCOMs as required, and prepare computer inputs.

- Average SAVAST demand as follows:
  - — Shipboard Nontactical ADP Program (SNAP I) average monthly demand is multiplied by three when the demand-based item (DBI) indicator D is not found in position 234 of the SAVAST.
  - — When a D indicator is present, the requisitioning objective quantity is compared to the ARR quantity and the higher of the two will become the AVCAL quantity. The use of requisitioning objective quantities pertains only to consumable items.

- Consider ARR constraint exceptions as designated by the TYCOM and apply the exceptions appropriately.

- Compute retail requirement levels for consumable and repairable items for which NAVICP-Phil has program support responsibility.

- Prepare preliminary AVCAL requirement packages for OPSITE/TYCOM distribution.

- Submit preliminary AVCAL products to the ship and the TYCOM according to the AVCAL schedule in FASOINST 4441.15.

- provide representation for participation in the AQRC. Negotiate LRCA stock levels and fixed allowances for other repairable nominated by conference attendees. Incorporate required changes to preliminary requirements.

- prepare the final AVCAL and supply aids and forward to the ship according to the AVCAL schedule.

- Process ACR-F documentation submitted by ship.

- Prepare supplemental AVCALS in support of major changes in configuration or deckload as required.

AVCAL Composition

Upon completion of the AQRC and override processing, final AVCAL output (deliverable) products including tapes and listings will be submitted to the ship and the TYCOM according to the AVCAL schedule. The deliverables from the AVCAL process are designed to interface with the Shipboard Uniform Automated Data Processing System-Real Time (SUADPS-RT). The magnetic tape supply aids will update the MRF, the outstanding requisition file, and the part number and ARR numbers files within SUADPS. The following deliverable products comprise the AVCAL.

- The ARR index is a consolidated listing of all ARRs used to compile the AVCAL.

- The AECL validation list and addendum is prepared in ARR list code sequence and shows major component application to specific types of aircraft. Additional data elements provided include the following information:
  - — Joint Electronics Type Designation System (JETDS) nomenclature
  - — Part number
  - — Aircraft model code
  - — Maintenance level codes (positions 3,4, and 5 of the SM&R code),
  - — Quantity installed by aircraft type,
  - — Total aircraft population.

An AECL addendum that lists ARRs in support of the aircraft deckload but not identified in the outfitting directive is developed upon completion of override processing.

- The gross quantity validation lists are multiple gross requirements listings that display ARR quantities applicable to line items before optimization. The data is arranged in both NIIN sequence and in NIIN sequence within the ARR list code. The ARR list code, component code, allowance quantity, and column selected for each item, including those items with zero allowances, are shown. If the line item is common to multiple ARRs, each application and associated data will be displayed.

- The manufacturer's cross-reference reports are multiple listings in NIIN sequence and in part number sequence within the commercial and government entity (CAGE) code of all items considered in the ARR gross computation. The data elements provided include CAGE and part number, NSN, ARR list, and component codes.

- The AVCAL requirements review listing displays all items that are considered in the AVCAL, including those with zero allowances, after the mechanized optimization process. This list is in NIIN sequence and indicates the program decision made relative to requirements determination. The data

provided includes the ARR list and component code or demand indicator, separately identified AVCAL, demand and ARR quantities, assets on hand, unit price, and extended price. Where an item has multiple ARR applications, it will be identified by MULT in the ARR field. The listing is to be used as a point of departure in requirements negotiations.

- The Net Requirements Report is a listing produced upon completion of override processing. This report is arranged in NIIN sequence within the ARR list axle. When assets appear on the SAVAST, this listing represents deficiencies. Where no assets appear, the listing represents the total AVCAL quantity. The data elements provided in this listing include the ARR list code, NSN, unit of issue, requirement (represented by a deficiency), unit price, extended deficiency values, Julian date, and serial number. Line item and dollar value summaries are printed for each ARR list code.

- The Excess Material Listings are multiple listings in NIIN sequence within the MSP category and in NIIN sequence within the ARR list code of all OPSITE on-hand assets that exceed authorized OSI retention limits. It is important to note that stock dues are not considered in the determination of the ship's material excesses. The data elements provided in this listing include the NSN, unit of issue, on-hand quantity, AVCAL requirement, excess quantity, unit price, and excess value. Line item and dollar value totals are provided for each ARR list code.

- The AVCAL Final Allowance Report is a listing of all items considered in the AVCAL less zero allowance candidates. This report is in NIIN sequence and is produced upon completion of override processing. The data elements include ARR list/component codes, NSN, unit of issue, ARR quantity, final AVCAL quantity (that is, the preliminary net plus override decision), demand quantity, and on-hand quantity.

- The Interchangeability Reports are multiple listings tailored to the AVCAL containing carried items cross-referenced to interchangeable items as found in NAVICP-Phil technical files. These reports are sequenced by the NIIN, part number, and family group code. Data contained in these reports include the AVCAL NSN, registered alternate(s), family group and relationship codes, CAGE, and part numbers.

SHOREBASED CONSOLIDATED ALLOWANCE LIST (SHORCAL)

The SHORCAL is a requirements list that identifies the quantity of material required to support planned operational and maintenance missions at an operational site. The purpose of the SHORCAL is to provide optimum supply support and aircraft operational readiness in a peacetime environment, unless otherwise specified in the WSPD. The SHORCAL is normally associated with consumer level support for DLR and FLR items. However, the SHORCAL will include both consumable and repairable allowances when initial] y established for an operating site. Unless otherwise requested, subsequent SHORCALs will only recommend consumable requirements for new aircraft or weapons systems.

The NAVICP-Phil is responsible for the develop ment and maintenance of SHORCAL in support of the operating sites. The SHORCAL includes support of the station aircraft, engines, support equipment, and other additional requirements that are approved and funded in the applicable WSPD. The SHORCAL does not include ordnance end items (4Z Cog) or items listed in the NAVAIR 00-35QH-2 instruction as authorized organizational level spares.

REQUIREMENTS DETERMINATION

The requirements for SHORCAL are determined as described in the following paragraphs.

Repairable Items

Allowances for aircraft and equipment that meet the protect criteria are obtained from the applicable ARR. In some cases, the item may apply to more than one ARR that provides a protected quantity. In this case, optimize the ARR quantity by adding all the protected attrition quantities together and then divide the sum by 2. Compare the result to the largest individual ARR protected attrition quantity. Select the larger of the two as the attrition protect quantity. Use the same optimization to the protected LRCA quantities. Add the optimized attrition and LRCA quantities to determine the total protected allowance.

When computing the nonprotected aircraft/systems allowances, refer to the procedures described in enclosure 2 of FASOINST 4441.16.

Consumables

The requirements for consumables are derived from the applicable ARR for new aircraft/systems that meet the protect criteria. These requirements are provided to the operating site as recommended stock levels.

The operating site will determine the final consumable requirement levels by comparing the recommended quantities to the levels previously established under the local demand-based procedures.

FIXED ALLOWANCE VALIDATION

The NAVICP-Phil will forward the fixed allowance review aids (FARA) to the operating site and TYCOM for review. Upon receipt of the review aids, validate the preliminary fixed allowance. In validation, use the latest 12 months of local 3-M data and the computation formula in enclosure 2 of FASOINST 4441.16. Recommended changes to the fixed allowance must be supported by updating the FARA supplement with local 3-M data, separating BCMs by category. Return the updated FARA supplement to NAVICP-Phil including the period of 3-M data used. The NAVICP-Phil will use the updated FARA supplement to recompute the fixed allowances and determine the final allowance quantity.

EXECUTION OF SHORCAL

After the allowance determination process, NAVICP-Phil will load the planned program requirements (PPRs) for new fixed allowances to the planned program file (PPF). The NAVICP-Phil loads the PPR by using document identifier BPR (for TIR sites) or 501 (for non-TIR sites). The final SHORCAL products are forwarded by NAVICP-Phil to the operating site and the TYCOM. the final products are transmitted to the operating site 83 days after the date when NAVICP-Phil forwarded the preliminary products.

After receiving the final products, the operating site must remove the old allowances and load the new fixed allowances. Operating sites must submit newly established or increased fixed allowances to NAVICP-Phil. The requisitions must cite advice code SD and fund code QZ for 7R Cog items and fund code 26 for 1R Cog items. Submit a separate requisition for each 7R Cog item.

Submit a cancellation request for all outstanding requisitions that are confirmed excess to the new fixed allowances. Return excess 7R Cog items by using document identifier D6_, fund code QZ, management code C, and project code RDE to the nearest wholesale activity.

Refer to FASOINST 4441.16 for additional information concerning SHORCAL, Splinter SHORCAL, and SASS.

COMPUTATION OF FIXED ALLOWANCE

The quantity of an activity's fixed allowance of aviation material is set and changed only by NAVICP-Phil. The requirements for fixed allowance are determined by the sum of attrition and local repair cycle requirements (LRCRs). The fixed allowance may also include funded additives such as the supplemental support requirements.

The Maintenance and Material Management (3-M) Systems data is used in determining the fixed allowance requirements of the activity. The 3-M systems data period must be the most current 12 months. In the case of new system(s) or aircraft on station for less than 1 year, a minimum of 6 months of 3-M data is used.

The retail levels in support of aircraft on board carriers are derived on a community basis. This data is overlaid into the preliminary AVCAL output products as the baseline tailored fixed allowance (BLTFA), subject to negotiations during the AQRC, The collective experience for BCM, repair, and TAT of the sites that constitute the carrier community is applied in the calculation of the BLTFA. Usage data from the carrier undergoing re-AVCAL is always applied in the calculation of the BLTFA.

ATTRITION QUANTITY

Attrition requirements are determined from the site's BCM actions. Activities may approximate the attrition requirements for the purpose of allowance change request-fixeed (ACR-F) by using the BCM rate computation. Compute the raw attrition quantity according to FASOINST 4441.15 or FASOINST 4441.16.

LOCAL REPAIR CYCLE REQUIREMENT (LRCR) QUANTITY

The operating site may simulate the LRCR determination for the purpose of ACR-F submission and allowance negotiations by using the activity's constrained TAT. The following principles apply in determining LRCR levels:

Table 4-1.-Constrained Turn-Around Time

Element	Maximum Allowed Days
Removal to IMA	1
Scheduling Time	3
Awaiting Parts	20
Actual Repair Time	8

- The item is locally repairable at the organizational or intermediate level of maintenance.

- Constrained TAT is used in the computation (see Table 4-1). The TAT is the number of calendar days between removal of the item for processing through repair cycle until it is available for reinstallation.

In computing the total average TAT for each NIIN, use the lower figure of the actual experience or maximum allowed time for each repair element. After summing the individual elements, the total NIIN average will be constrained to 20 days. The constrained average daily NIIN TAT is used in the calculation of LRCR values.

To determine the LRCR quantity, use the computation formula and Poisson distribution table (part of enclosures) in FASOINST 4441.15 or FASOINST 4441.16.

SUMMARY

In this chapter, we discussed the Navy Supply System echelons and their functions for managing aeronautical materials in the Navy. Aeronautical material is composed of consumable and repairable items. We discussed the difference between these categories of material and the procedures used to determine the activity's stocking levels for each category.

The primary inventory manager of aeronautical materials in the Navy is the Naval Inventory Control Point-Philadelphia. The repairable items are categorized as field level repairable (FLR) and aviation depot level repairable (AVDLR). The AVDLR items represent the most significant dollar investment in the aeronautical inventory. Therefore, strict inventory control is required to manage these items.

The activities that are required to provide supply support to aircraft and aeronautical equipment will be outfitted with items for stock. The designated activity is outfitted through the AVCAL/SHORCAL process. After the AVCAL/SHORCAL process, any increase or decrease to the allowance quantity must be submitted to the NAVICP on the Allowance Change Request-Fixed (ACR-F) form. The FLRs may be carried in purpose code W or L of an activity's fixed allowance. The FLRs that are excess to the authorized allowance are carried in A purpose code. Ships carry FLRs under stores account 51000 pending issue to the customer. The ownership of AVDLR items relate to the stores account they are carried under. These stores accounts could be the DBOF, APA, contractor supported, and end-use ashore or afloat.

We discussed the different Navy management programs for AVDLR items. These programs provide specific procedures in inventory management, scheduling, repair, carcass tracking, reclamation, and support of AVDLRs.

Managing repairable material has become more significant in today's Navy. The activities must ensure that procedures for processing transactions are being followed. Since the number of AVDLR items in the Navy has increased, intensive management procedures are required. The inventory management and carcass tracking programs provide the necessary procedures in support of the AVDLR.

We discussed the carcass tracking and the Advanced Traceability and Control (ATAC) programs. The carcass tracking program includes shipment of retrograde, maintaining carcass tracking records (CTRs), carcass tracking follow-up inquiry from NAVICPs, replies from shipping activities, and billings. The follow-up inquiry documents must be processed within the prescribed time frame to prevent additional billing from the NAVICPs.

To prevent the duplication of effort and to ensure currency of information, certain paragraphs in this chapter refer you to the reference(s) that describe the subject in detail.